East Asian orogenic collapse caused by oblique subduction and reduced boundary force

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East Asia experienced compressional deformation in the early Mesozoic, across the South China Block, North China Craton (NCC) and the part of the Central Asian Orogenic Belt to the north of the NCC. Deformation and magmatism resulted from Triassic collisions that accreted the continental blocks, and also Izanagi (Paleo-Pacific) Plate subduction from the east. We suggest that there was a single East Asian orogenic plateau by the Middle Jurassic, from NE Russia to SW China, with a length of ~4000 km. The causes and timings of the destruction of this plateau are unclear, especially loss of the lower lithosphere of the NCC. Here, we synthesize evidence for late Mesozoic and early Cenozoic crustal thinning via extension and denudation, to quantify the previous crustal thickness. We find that there was a ~50 km thick crust by the Middle Jurassic across much of the area between NE Asia and SW China, which has since undergone ~30% thinning. A force balance indicates that the buoyancy force produced by the gravitational potential energy of this thick crust drove extension from the latest Jurassic - Early Cretaceous (~145 Ma), when a rapid switch from orthogonal to oblique subduction at the Asia-Izanagi plate margin reduced the compressive boundary force by ~30%. Mantle lithosphere thinning of the NCC exceeds crustal thinning by a factor of ~2; extensional collapse cannot be the only cause of cratonic destruction, but played a major role, and potentially triggered mantle instability. Early Cretaceous extension was accompanied by a flare-up in volcanism along East Asia, which we speculate contributed to the Cretaceous hothouse climate.